

PITS AND IMPOUNDMENTS

Natural Gas Horizontal Well Control Act

**West Virginia Department of Environmental Protection
Office of Oil and Gas**

W.Va. Code §22-6A

- **Scope of Legislation**
- **Applicability to Impoundments**
- **Policies**
- **Procedures**
- **Implementation**
- **Presented by John Kearney,
February 1st, 2012**

Scope of Legislation

as it relates to Impoundments and Pits

Three Sections:

§22-6A-9. Certificate of Approval

- Establishes rules for Pits and Impoundments not associated with a specific well work permit (Centralized).
- Mandates Centralized Impoundments receive **Certificate of Approval**
- Similar to Dam Safety Rules
- (h) Each certificate of approval issued by the secretary pursuant to the provisions of this article may contain other terms and conditions the secretary prescribes.

Scope of Legislation

as it relates to Impoundments and Pits, continued.

§22-6A-10. Notice to property owners.

- Requires notification of centralized impoundment to owners of surface tract, mineral tract owners, coal owners, spring owners, storage field operators. Also requires survey of water well and spring users within 1,500' and the requirement to offer water quality testing.

§22-6A-23. Impoundment and pit safety study; rulemaking.

- Mandates that by January 1, 2013, DEP reports to the Legislature on the safety of pits and impoundments utilized pursuant to section nine of this section.
- Upon a finding that greater monitoring, safety and design requirements or other specialized permit conditions are necessary, the secretary shall propose for promulgation legislative rules establishing these new requirements.

The following definitions are to be used:

Impoundment – “A man-made excavation or diked area for the retention of fluid.”
By convention - containing freshwater only.

Pit – “a man-made excavation or diked area that contains or is intended to contain an accumulation of process waste fluids, drill cuttings or any other liquid substance generated in the development of a horizontal well and which could impact surface or groundwater.” Any mixture of waste will be classified as a pit.

Centralized – an impoundment or pit that is **NOT** on a permitted drilling location.

Associated – an impoundment or pit that **IS** on a permitted drilling location.

Certificate of Approval – a formal approval for centralized impoundments or pits.

Applicability of §22-6A-9

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- Impoundments greater than 210,000 gallons (5,000 bbls).
- Above ground diked impoundments greater than 210,000 gallons.
- Impoundments not associated with a specific well work permit.
- Establishes rules and procedures to issue **Certificate of Approval** for impoundment and pits NOT associated with well permits.

Exceptions:

- Impoundments associated with well work permit.
- Farm Ponds.

Exceptions to §22-6A-9

Associated Impoundments



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- Let's get the exceptions out of the way.
- Impoundments that are tied, or associated with well permit. Part of the permitted Limit of Disturbance (LOD).
- Not much has change by this legislation.
- Reclamation time frames same as well pad.
- We will standardize communication process, forms, submittals. One form for all impoundments.
- We will also begin assigning numbers to all impoundments and enter in our ERIS data base.
- You will submit these on paper and via Email.
- New Email: depimpoundments@wv.gov

Exceptions to §22-6A-9, cont.

Farm Ponds



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Can you build any impoundment, anywhere, and call it a farm pond ?

No

There are standards

Farm Ponds

Applicable Regulation:

- United States Department of Agriculture's Natural Resources Conservation Service "Conservation Practice Standard - Ponds" (Code 378)
- There are standards for placement in low hazard area, and design standards for spillway, drainage area, size and use.
- Farm Pond Fact Sheet – See Slide 20 for Link
- Farm Pond Standard – See Slide 20 for Link
- Pay attention to US Army Corps of Engineer and EPA Clean Water Act regulations.

Centralized Impoundments



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§22-6A-9

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Scope of Legislation:

- Centralized pits (not on a well permit) will require a Certificate of Approval.
- This is very similar to a Dam Safety Certificate of Approval.
- Good for one year, renew annually, application fee \$300, annual \$100.
- To enlarge, alter, repair, remove or abandon an impoundment will require a modification to the Certificate of Approval, \$300 Fee.
- Designs and plans will be charge of Professional Engineer, registered in WV.
- You have the right to appeal.
- You have six months to reclaim impoundment after expiration of approval.
- New forms
- Waste pits have more stringent design standards.

Required Plans

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With an Impoundment Certificate of Approval application, you will include:

- Engineered Construction Plans
- Erosion and Sediment Control Plan
- A Reclamation Plan – Post-Construction and Post-Use.
- Impoundment Monitoring Plan - **New**
- Impoundment Maintenance and Emergency Plan - **New**
- Water Management Plan. How will you fill it? You will reference this water management plan once water begins moving to satellite well pads.

Notifications: - See §22-6A-10

- To surface owner, mineral owners, coal owners, water well and spring owners, storage field operators. Copies of proof of delivery will be included with application.
- Also notice the above people within 7 days, but not less than 2 days, of the start of construction.
- You must give water well and spring owners, within 1,500 feet, the opportunity to have their wells quality tested, (**no flow tested required**).

Noteworthy Elements of Plans

Engineered Plans.

- Waste Pits have more safe guards; duel liners, leak detection, groundwater monitoring. See Slide 20 for Link
- Consider mine voids beneath.

Reclamation Plans.

- Show us how you plan on reclaiming the site and what it will look like.

Maintenance Plan.

- Scheduled maintenance, routine repairs.

Monitoring and Emergency Plan.

- Inspections, emergency planning, and response. You will evaluate the location of impoundments and classify using dam safety Hazard Classification criteria.

Noteworthy Elements of Plans

Monitoring and Emergency Plan

Hazard Classes

- Class 1 (High Hazard)
 - Class 2 (Significant Hazard)
 - Class 3 (Low Hazard)
 - Class 4 (Negligible Hazard)
-
- Location and classification of new centralized impoundments will impact your emergency plan and how you prepare for an emergency.

Surface Owner Agreements

- This is not an oil and gas permitted activity. These will be constructed on landowners who enter into lease agreements with you.

Water Management Plans

Water Management Plans

- A WMP will be needed to fill your impoundment. Will also be needed if you will plan on diluting a waste pit with freshwater from a stream source (greater than 5,000 bbl. / month).
- Apply for WMP concurrently with Impoundment application or prior.
- A centralized impoundment WMP can be referenced for well pads.
- Will integrate with other WMP plans. Waste pits will be referenced in other WMP disposal. Waste pits may also be sources of other WMP.

A Word About Dams

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Do not build a dam unless you intend to build a dam.

- Definition: See Slide 20 for Link
- This is an option if you are willing to design and build to dam specifications.
- Height and volume driven.
 - 25' tall dam and 15 acre feet of water

15 acre ft = 116,375 bbl., 4,887,759 gallons, 653,400 ft³, 24,200 yd³

OR

- 6' tall dam and 50 acre feet of water (50 acre feet = 387,917 bbl.)
- Impoundments often exceed the volume limit, but not the height limit.
- Incised volume does not count to total volume.

Application Form

To standardize how we communicate about impoundments, **ALL** impoundments and pits will have an “Impoundment / Pit Application Form”.

- Basic information will be captured.
- It will have checklists for required information and additional plans.
- All impoundments will get a number. We need to standardize names for tracking purposes.
- Remember standard nomenclature:

Impoundment = Freshwater

Pit = Waste

Link to “Impoundment / Pit Application Form”: See Slide 20 for Link

Application / Approval Process

Centralized Impoundments and Pits – “How-To”.

1. Complete the notification process, use form WW-6A.
2. Complete and submit “Impoundment / Pit Application Form”.
3. Show proof of notification requirements, water well survey, and testing.
4. Include all required plans, including Water Manage Plan.
5. Water Management Plan will be forwarded by OOG to Water Use section for review and approval.
6. Office of Oil and Gas will review application and plans.
7. WMP gets approved.
8. Application is approved then given “Certificate of Approval”.
9. You will receive “Certificate of Approval” and impoundment number.
10. At least 7 days prior to construction commencement, complete “Notification of Impoundment / Pit Construction”. Submit a copy of this form to Office of Oil and Gas, local Oil and Gas Inspector, and those requiring notification.
11. Build impoundment or pit.
12. Remember the WMP notification requirement prior to filling.
13. Submit P.E. Certified As-Built Drawings.

Application / Approval Process

Associated Impoundments and Pits – “How To”.

1. Apply for well work permit as usual with impoundments included in your construction drawings, E&S Plans, etc.
2. Complete and submit “Impoundment / Pit Application Form” with the application.
3. An impoundment number will be assigned and sent to you.
4. After your drilling permit is issued and at least 7 days prior to construction commencement, complete “Notification of Impoundment / Pit Construction”. Submit a copy of this form to Office of Oil and Gas and to local Oil and Gas Inspector.
5. Build it.
6. Submit P.E. Certified As-Built Drawings.

Notes on Water Management Plans.

Since these impoundments will be associated with a drilling permit, you will have already applied for a water management plan, or have done so concurrently. If you have an approved WMP, provide this number on application. If not, notify as “pending”. In no case will you pump large volumes of water without an approved WMP.

Impoundment Numbers

Examples of Types

000-FWC-0001	000-WPC-0001
000-FWA-0001	000-WPA-0001

Explanation of Number and Types

000 = County Code

FWC = Fresh Water – **Centralized** – Impoundment –not associated with API permit

FWA = Fresh Water – **Associated** – Impoundment –associated with API permit

WPC = Waste Pit – **Centralized** – Pit not associated with API permit

WPA = Waste Pit – **Associated** – Pit associated with API permit

0001 = Sequentially numbered by county

Plan Submittal

Submit original paper copy of application to:

West Virginia Department of Environmental Protection
Office of Oil and Gas
Impoundment Registration
601 57th Street, SE
Charleston WV 25304

Email PDF file format of this application and all related engineering Plans to :
Depimpoundments@wv.gov

List of Forms and References



Office of Oil & Gas

All Forms and References will available on Office of Oil and Gas Web Page

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Forms	References
Impoundment / Pit Application Form - Link	Natural Gas Horizontal Well Control Act; W.Va. Code §22-6A - Link
Notification of Impoundment / Pit Construction - Link	W.Va. Code §35-4-21 Construction of Pits and Impoundments with Capacity of Greater Than 5,000 bbl - Link
Impoundment As-Built Certification Form - Link	W.Va. Code §47-34 Dam Safety Rule - Link
Centralized Impoundment / Pit Annual Recertification Form - Link	United States Department of Agriculture's Natural Resources Conservation Service "Conservation Practice Standard - Ponds" (Code 378) - Link
Centralized Impoundment / Pit Modification and Closure Form - Link	Farm Pond Fact Sheet - Link
Example Maintenance Plan - Link	Design and Construction Standards for Centralized Pits - Link
Example Monitoring and Emergency Plan - Link	

Q. Can we build an impoundment next to a permitted location, call it “centralized” and get a certificate of approval for it?

A. Yes, if you have a surface use agreement with the surface owner. These impoundments are not on the permitted location. Also, they should be designed to maintain some degree of separation from permitted pad LOD. The two activities can not interfere with reclamation of the other. They will also require their own plans.

Q. What about next to an existing, permit released pad?

A. Yes, if you don’t disturb the well pad.

Q. If WV DEP give us a certificate of approval, are we exempt form US Army Corps of Engineer issues?

A. No. The Corp of Engineers is diligent in their role of enforcing permitting requirements for work in the waters of the United States of America. You should consult with them before doing stream work.

Good Ideas



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Water Level Markings



**Water Level in feet.
Better monitoring,
detect leaks**

Good Ideas

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Fence is up

Neat location

Good Berms and
ditches

Good Vegetation
and veg. control.

Well Maintained

Questions

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